

**What is claimed is;**

1. A plasma processing method for removing a photoresist film formed at a workpiece placed inside a processing chamber by raising a processing gas induced into said processing chamber to plasma, comprising:
  - a step in which high-frequency power for biasing at a first power level is applied to the workpiece;
  - a step in which the processing gas is raised to plasma; and
  - a step in which high-frequency power for biasing at a second power level is applied to the workpiece by switching the high-frequency power for biasing at said first power level to the high-frequency power for biasing at said second power level lower than said first power level before said photoresist film is completely removed.
2. A plasma processing method for removing a photoresist film formed at a workpiece placed inside a processing chamber by raising a processing gas induced into said processing chamber to plasma, comprising:
  - a step in which high-frequency power for biasing is applied to the workpiece;
  - a step in which the processing gas is raised to plasma; and
  - a step in which application of the high-frequency power for biasing is stopped before said photoresist film is completely removed.
3. A plasma processing method in which a photoresist film with an opening pattern having an opening area larger than the opening area of a hole formed at a specific layer of a workpiece and containing the opening of said hole is used as a mask to implement a plasma etching process halfway through said specific layer and then said photoresist film is removed, comprising:

a step in which high-frequency power for biasing at a first power level is applied to the workpiece;

a step in which the processing gas is raised to plasma; and

a step in which high-frequency power for biasing at a second power level is applied to the workpiece by switching the high-frequency power for biasing at said first power level to the high-frequency power for biasing at said second power level lower than said first power level before the photoresist film is completely removed.

4. A plasma processing method in which a photoresist film with an opening pattern having an opening area larger than the opening area of a hole formed at a specific layer of a workpiece and containing the opening of said hole is used as a mask to implement a plasma etching process halfway through said specific layer and then said photoresist film is removed, comprising:

a step in which high-frequency power for biasing is applied to the workpiece;

a step in which the processing gas is raised to plasma; and

a step in which application of the high-frequency power for biasing is stopped before said photoresist film is completely removed.

5. A plasma processing method according to any of claims 1 ~ 4, wherein:

said photoresist film constitutes a mask used to form a specific pattern at an SiO<sub>2</sub> film formed at the workpiece.

6. A plasma processing method according to any of claims 1 ~ 4, wherein:

